

Pisane," and are inferior only to those of the Baptistery at Florence. In the same work, also, is a drawing of a capital of great beauty; it has birds and grotesque heads amongst the acanthus leaves; there are figures of sportive children between the cauliculi, and the latter are supported by birds. The engraving is executed with care, which can hardly be said of others in the same book.

The cathedral of Pisa is not only in design, a structure in advance of the period of its erection, but is equally a remarkable work in construction. It appears that the architect excelled in mechanical contrivances; and inscriptions, distinct from his epitaph, record that he invented a machine, by which ten maidens could raise the load of a thousand oxen. Another inscription gives the name of Magister Rainaldus, and has led to the supposition that he was joint architect of the building. But it would be difficult to find any structure so clearly the work of one mind, and it is more probable that Rainaldus was the sculptor of the ornaments of the facade. Still, if there be any who think that Greek and Italian types are both discernible in the building, they may readily interpret both this inscription and the epitaph in the manner they wish.

The work of Messrs. Cressy and Taylor contains complete plans, some details, and other illustrations of the four buildings. The description has some ingenious speculations arising from the comparison of the Pisan buildings with those of other countries. The plates are well engraved, and the work is in this respect a very great advance upon the older one upon the list. The latter is, however, well worth examining, and must be consulted by every one who is inquiring into the history of these structures. It is in one volume folio, in Latin, and has a considerable number of illustrations. There is great difference in the manner of their execution. Some of them are curious attempts at perspective, not all of which it is easy to comprehend the intention of. The Baptistery, Campanile, and Campo Santo form part of the same volume.—The work of Morrona is still more valuable as a book of reference for the history of art in Pisa, but we must defer speaking of it, as well as the remainder of the buildings illustrated in these volumes, to another notice of the architecture of Pisa.

E. H.

BOHN'S STANDARD LIBRARY.

Heckman's History of Inventions, Discoveries, and Origins. Translated by W. JOHNSTON. Revised and enlarged. Bohn, York-street, Covent Garden: 1846.

The series of works which Mr. Bohn is presenting to the public under the title of his "Standard Library," are remarkable for their goodness and cheapness, even in this age of cheap, good books, and ought to command a large sale. To be able to obtain Roscoe's "Life and Pontificate of Leo X.," Schlegel's "Lectures on the Philosophy of History," Sismondi's "History of the Literature of the South of Europe," and Schlegel's "Lectures on the German Literature," for a few shillings, is extremely good, and to find them beautifully printed and bound, and ably edited, is even more so. Yet so it is, and much praise is due to the enterprising publisher in consequence.

Beckman's well-known work is to be completed in two volumes, revised by Dr. Francis and Dr. Griffith. The first is now before us, and contains an immense mass of recondite information, and pleasant light reading, suitable to all capacities. To give an idea of its style and matter, we make the following extracts from the chapter on—

PAVING AND CLEANING THE STREETS.

"Of modern cities, the oldest pavement is commonly ascribed to that of Paris; but it is certain that Cordova in Spain was paved so early as the middle of the ninth century, or about the year 850, by Abdorrahman II., the fourth Spanish caliph. This prince, who knew the value of the arts and sciences, and who favoured trade so much that abundance in his reign prevailed throughout the whole land, caused water to be conveyed into that city, which was then his capital, by leaden pipes, and ornamented it with a mosque and other elegant buildings.

The capital of France was not paved in the

twelfth century; for Rigord, the physician and historian of Philip II., relates, that the king standing one day at a window of his palace, near the Seine, and observing that the carriages which passed threw up the dirt in such a manner that it produced a most offensive stench, his majesty resolved to remedy this intolerable nuisance by causing the streets to be paved; which was accordingly done, notwithstanding the heavy expense that had prevented his predecessors from introducing the same improvement. The orders for this purpose were issued by the government in the year 1184; and upon that occasion, as is said, the name of the city, which was then called Lutetia on account of its dirtiness, was changed to that of Paris. This service rendered to Paris by that sovereign, who first also caused the cathedral to be surrounded by a wall, is confirmed by various historians. Mezeray informs us, that Gerard de Poissy, then intendant of the finances, expended eleven thousand marks of silver in this undertaking. It appears that a certain income was allowed to the city for defraying the expenses; for in 1285, a hundred years after, when it was proposed that the pavement should be carried without the gate of St. Martin, the citizens excused themselves from the work, by saying that the funds assigned to them were not sufficient for that purpose. It is certain, that in the year 1641 the streets in many quarters of Paris were not paved.

It is very probable that other opulent cities, finding the benefit which the capital derived from this improvement, were induced to follow its example. At any rate we know that Dijon, which was then reckoned one of the most beautiful, had paved streets so early as the year 1391, to which Philip the Bold, Duke of Burgundy, the second husband of Margaret, heiress of Flanders and other parts of the Netherlands, contributed two thousand livres; and in 1421 paviers were employed in all the streets. Historians remark, that after this period, dangerous diseases, such as the dysentery, spotted fever and others, became less frequent in that city.

That the streets of London were not paved at the end of the eleventh century, is asserted by all historians. As a proof of this, they relate that in the year 1090, when the church of St. Mary-le-Bow, in Cheapside, was unroofed by a violent storm of wind, four pillars or beams, which were twenty-six feet in length, sunk so deep into the ground, that scarcely four feet of them appeared above the surface. The streets of London then, says Howel, were not paved, but consisted of soft earth. I can, however, find no account of the time when paving was first introduced. It appears that the pavement of this immense city became gradually extended as trade and opulence increased. Several of the principal streets, such as Holborn, which at present are in the middle of the city, were paved for the first time by royal command in the year 1417. Others were paved under Henry VIII., some in the suburbs,† in 1544, others in 1571 and 1605, and the great market of Smithfield, where cattle are sold, was first paved in 1614.

When a solid bottom had been given to streets, the cleansing of them, which, as the Roman prætors said, is a continual improvement, was then rendered possible. At Rome were appointed *tribuni rerum niuentium*, who had the care of cleansing the streets, markets, temples, baths, and other public places. Strict orders were given that no filth should be thrown into the river or streets; whoever transgressed against this prohibition was subjected to punishment, and obliged to repair the damage. The public sewers, *cloacæ*, under the streets contributed very much to facilitate the cleaning of them, yet they were commonly full of mud, as those of Paris are at present, notwithstanding the many expensive regulations established to prevent that nuisance.

A very improper liberty prevailed at Paris in the fourteenth century, which was, that all persons might throw any thing from their

windows whenever they chose, provided the gave notice three times before, by crying out *Oare l'eau*, which is as much as to say, Take care of water. This privilege was forbidden in 1372, and still more severely in 1395. A like practice, however, seems to have continued longer at Edinburgh; for in the year 1750, when people went out into the streets at night, it was necessary, in order to avoid disagreeable accidents from the windows, that they should take with them a guide, who as he went along called out with a loud voice, in the Scotch dialect, *Haud your haunde, stop your hand.*

This practice, however, would not have been suppressed at Paris, had not the police paid particular attention to promote the interior cleanliness of the houses, and the erection of privies. Some will perhaps be astonished that these conveniences should have been first introduced into the capital of France by an order from government in the sixteenth century; especially as they are at present considered to be so indispensably necessary, that few summer-houses are constructed without them. Those, however, to whom this affords matter of surprise must be still more astonished when they are told, that the residence of the King of Spain was destitute of this improvement at the very time that the English circumnavigators found privies, constructed in the European manner, near the habitations of the cannibals of New Zealand. But Madrid is not the royal residence which has had dirty streets longest on account of this want. Privies began to be erected at Warsaw for the first time only within these few years.

In the Parisian code of laws, *Coutume de Paris*, which was improved and confirmed in 1513, it is expressly ordered, that every house should have a privy. This order, with the denunciation of severer punishment in case of disobedience, was renewed in 1533; and in 1538 the under officers of police were obliged to examine the houses and to report the names of those who had not complied with this beneficial regulation. It appears, however, that the order of 1533 was not the latest; for in 1697, and even in 1700, the police was under the necessity of strictly commanding "that people should construct privies in their houses, and repair those already constructed, and that within a month at furthest, under the penalty of being fined in case of neglect, and of having their houses shut up until they should be in a proper condition." This order is given in the same words in the *Coutume de Mante, Etampes, Nivernois, Bourbonnois, Calais, Tournay, and Melan*. That issued at Bordeaux is of the year 1585.

Privies seem to have been common in the large and flourishing towns of Germany much earlier than in the capital of France; and those who are not disposed to find fault with me for introducing proofs here which historians have not disdained to record, may read what follows:—In the annals of Frankfort on the Maine, where mention is made of the cheapness of former times, we are told how much a citizen there gave in the year 1477 for cleaning his privy. We are informed also, that in 1496 an order was issued by the council forbidding the proprietors of houses situated in a certain place planted with trees to erect privies towards the side where the trees were growing; and that in 1498, George Pfeffer von Hell, J.U.D. and chancellor of the electorate of Mentz, fell by accident into a privy, and there perished. It appears, however, from the streets and houses of most of our cities, that they were constructed before such conveniences were thought of, and that these were erected through force at a later period."

[Berlin, strange to say, is very ill circumstanced in respect to these conveniences, even at the present day (1846). In most of the houses, small closets are located on the landings of the stairs, which require to be emptied every other night, to the no great satisfaction of the olfactory nerves. Nor are the streets kept in a very proper state,—large puddles of filth

* In the king's order it was said, that the highway named Holborn in London was so dirty and muddy, that many perils and hazards were thereby occasioned as well to the king's carriages passing that way as to those of his subjects; he therefore ordained two vessels, each of twenty tons burthen, to be employed at his expense, for bringing stones for paving and mending the same.—Anderson's Hist. of Com., i., p. 344.

† In this order the streets were described "as very foul, and full of pits and ditches, very perilous and (not only) noxious, as well for the king's subjects on horseback as on foot, and with carriage."—Anderson, *supra*, p. 379.

* Letters from Scotland, 1706, 2 vols., 8vo. At this period, when the luxury of water-closets was unknown, it was a custom for men to perambulate the streets of Edinburgh, carrying conveniences (pails) suspended from a pole on their shoulders, enveloped by cloths sufficiently large to cover both their apparatus and customers, crying, "Wha wants me, for a hawker?" It has since been used against the Edinburgh people as a job of satire upon an ancient custom. By way of a jest, however, it may be observed that, at the present day there is a water-closet in almost every house in Edinburgh.